



**THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Manoj K. Bhattacharyya et al. Examiner: H. Jey Tsai  
Serial No.: 10/735,941 Group Art Unit: 2812  
Filed: Dec. 15, 2003 Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

---

**DECLARATION OF PRIOR INVENTION UNDER 37 C.F.R. § 1.131**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

This Declaration is submitted to establish prior invention of the subject matter of the present patent application. The person making this Declaration is the joint inventor, Anthony Peter Holden.

Accompanying this Declaration are Exhibits A through C to establish conception of the subject matter of the present patent application in the United States prior to the filing date of January 15, 2002, of U.S. Patent Application Pub. No. 2003/0132494 ("Tuttle et al.") coupled with due diligence from prior to the Tuttle et al. filing date to the April 18, 2002 filing date of the parent of the present patent application (i.e., constructive reduction to practice).

The present application (application no. 10/735,941, filed December 15, 2003, and assigned HP File No. 10014277-2) presents claims that were withdrawn from consideration in the parent application (application no. 10/125,095, filed April 18, 2002, and assigned HP File No. 10014277-1) as being directed to a non-elected invention.

Exhibit A (2 pages) includes a redacted HP Invention Disclosure submitted by the joint inventors Manoj Bhattacharyya, Darrel Bloomquist, and Anthony Holden and received by the HP Legal Department prior to January 15, 2002. In addition, this invention disclosure was witnessed prior to January 15, 2002. This invention disclosure was assigned HP Patent Disclosure No. 10014277 and describes subject matter of the present patent application.

Exhibit B (2 pages) includes a redacted HP Invention Disclosure submitted by the joint inventors Sarah Brändenberger, Darrel Bloomquist, and Manoj Bhattacharyya and received by the HP Legal Department prior to January 15, 2002. In addition, this invention disclosure was witnessed prior to January 15, 2002. This invention disclosure was assigned HP Patent Disclosure No. 10014284 and describes subject matter of the present patent.

Declaration under 37 C.F.R. § 1.131  
Applicant: Manoj K. Bhattacharyya et al.  
Serial No.: 10/735,941  
Filed: Dec. 15, 2003  
Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

application. The HP Patent Disclosure Nos. 10014277 (Exhibit A) and 10014284 (Exhibit B) were combined for purposes of preparation and filing of the patent application.

Exhibit C (8 pages, including attachments) is the Declaration of Matthew B. McNutt, the patent attorney assigned to prepare the parent of the present application, showing due diligence in preparation of the patent application from prior to the Tuttle et al. January 15, 2002, filing date to the April 18, 2002 filing date of the parent of the present patent application.

From these exhibits, it can be seen that the subject matter of the present patent application was conceived prior to the filing date of January 15, 2002 of U.S. Patent Application Pub. No. 2003/0132494, coupled with due diligence from prior to the filing date of the reference to the filing date of the parent of the present patent application (i.e., constructive reduction to practice).

As a person signing below, I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Anthony Peter Holden Date: JULY 14 2005  
Anthony Peter Holden

Write in Dark Ink on Front Side Only, Please



PDNO

10014277

## HP Invention Disclosure

DATE RCVD

2

ATTORNEY

## Descriptive Title of Invention:

Permalloy/soft mag. material Coating /shielding to protect MRAM from sto

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [ Mar 22, 91 ].

( SARAH BRANDENBERGER has a almost identical. Please combine

Employee No. Name Signature Telnet Mailstop Entity &amp; Lab Name

267954 MANOJ BHATTACHARYYA *Manojo Bhattacharya* 1-857-7475, Pab 100 0419-  
49084 Darrel Bloomquist *Darrel Bloomquist* 20-8 5213

Employee No. Name Signature Telnet Mailstop Entity &amp; Lab Name

464700 ANTHONY HOLDEN *Anthony Holden*

Signature of Witness(es) The invention was first explained to, and understood by, me (us) on this date: [ ]

Full Name Signature Date of Signature

*Steven C. Johnson* *St. C. Johnson* [ ] 3

## Description of Invention:

## A. Description of the construction and operation of the invention

A coating of soft magnetic material can be applied on top of outside plastic or other material. <sup>packaging</sup>

Multiple layers with different orientations easy axes to block fields of different orientations can also be added

~~Also~~ An alternate design/implementation can be making the packaging material out of magnetically soft plastic.

## B. Advantages of the invention over what has been done before.

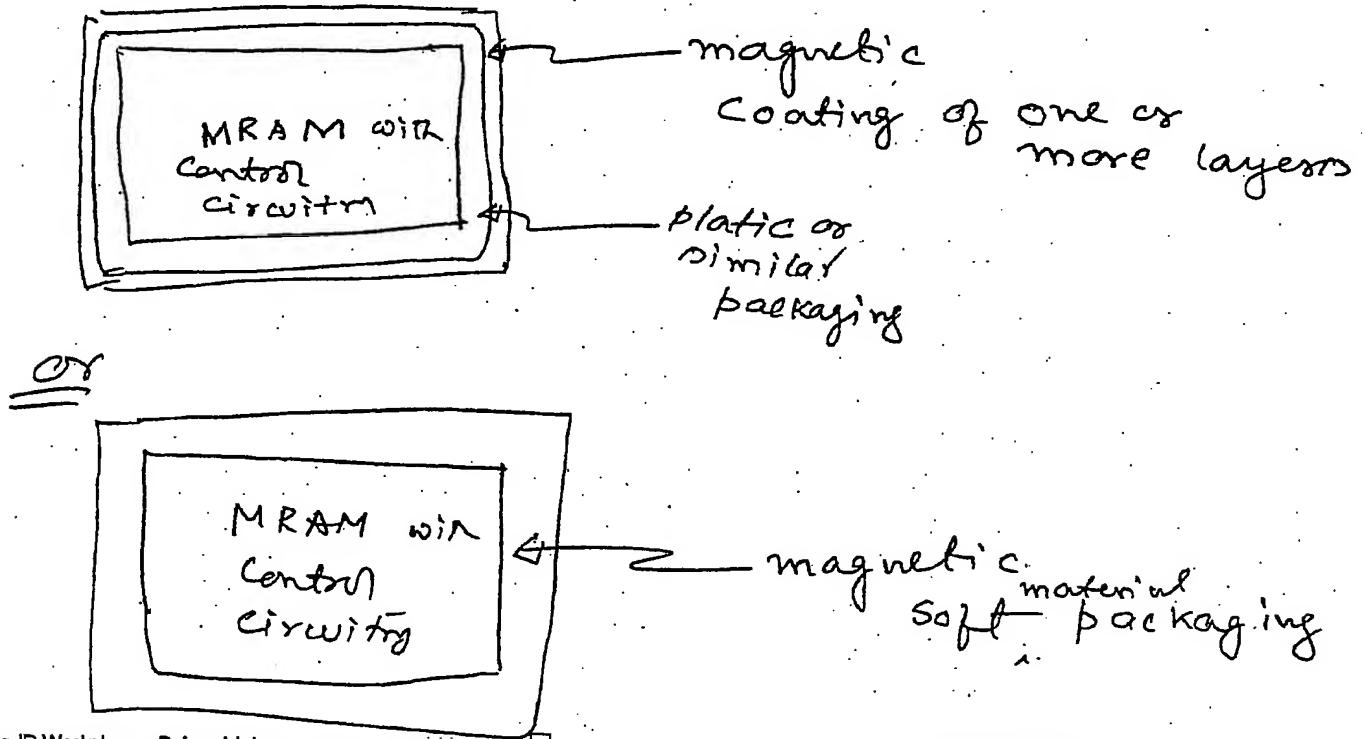
MRAM cells are switched by applying small (of the order of 50-100 Oe) magnetic fields generated by write conductors (word and bit lines). The magnetically written bits are thus sensitive to external fields. <sup>Storage</sup> The magnetic fields can be earth magnetic field or any field coming out of a motor or other devices.

Write in Dark Ink on Front Side Only, Please

C. Problems solved by the invention.

D. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.).

Pictures/Flowcharts (if any):



Write in Dark Ink on Front Side Only, Please



PDNO

10014284

## HP Invention Disclosure

DATE RCVD

2 ATTORNEY

## Descriptive Title of Invention:

Method of preventing external degradation of MRAM

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [ 3/21/01 ]

358135	SAETHI Bandulberg	Saethi Bandulberg	x61017 400	PSB	
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name

49084	Darrel Bloomquist	DBloomquist			
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name

267954	Manoj Bhattacharyya	mbattacharyya			
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name

Signature of Witness(es) The invention was first explained to, and understood by, me (us) on this date: [ ]

Full Name	Signature	Date of Signature
Steve C. Johnson	Stev	[ ]

## Description of invention:

## A. Description of the construction and operation of the invention

provide shielding similar to faraday cage or solid shielded  
 This can either be on the chip or external  
 packaging.

## B. Advantages of the invention over what has been done before.

as far as I know - no shielding has been used on  
 MRAM. This would ~~also~~ prevent outside fields from  
 writing. The casing may also have the property of  
 distributing temperature.

Write in Dark Ink on Front Side Only, Please

C. Problems solved by the invention.

prevents external fields "corroding" Mn an

D. Prior solutions and their disadvantages (If available, attach copies of product literature, technical articles, patents, etc.).

Don't know of prior solutions

Pictures/Flowcharts (if any):

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Manoj K. Bhattacharyya et al.	Examiner:	H. Jey Tsai
Serial No.:	10/735,941	Group Art Unit:	2812
Filed:	Dec. 15, 2003	Docket No.:	10014277-2
Title:	<b>MAGNETIC SHIELDING FOR MRAM DEVICES</b>		

**DECLARATION OF MATTHEW B. MCNUTT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

This Declaration is submitted in support of Declarations of Prior Invention Under 37 C.F.R. 1.131 submitted by joint inventors of the above-referenced patent application. This Declaration is submitted to establish due diligence in the preparation and filing of the parent of the above-referenced patent application in the United States from prior to the filing date of January 15, 2002, of U.S. Patent Application Pub. No. 2003/0132494 ("Tuttle et al.") to the April 18, 2002 filing date of the parent of the above-referenced patent application (i.e., constructive reduction to practice).

I, Matthew B. McNutt, state as follows:

1. I am the patent attorney responsible for preparing the above-referenced patent application (serial no. 10/735,941, filed December 15, 2003, and assigned HP File No. 10014277-2), and also the parent of the above-referenced patent application (serial no. 10/125,095, filed April 18, 2002, and assigned HP File No. 10014277-1).
2. The above-referenced patent application (HP File No. 10014277-2) presents claims that were withdrawn from consideration in the parent patent application (HP File No. 10014277-1) as being directed to a non-elected invention.
3. I have been employed by the law firm of Dicke, Billig & Czaja since 2001.
4. I received invention disclosures (attached as Exhibit A and Exhibit B to the Declarations of Manoj Bhattacharyya, Anthony Holden, and Sarah Brandenberger) for purposes of preparing the parent of the above-referenced patent application on the subject invention of the invention disclosures on or around September 5, 2001 (see Exhibit 1, attached).

Declaration of Matthew B. McNutt  
Applicant: Manoj K. Bhattacharyya et al.  
Serial No.: 10/735,941  
Filed: Dec. 15, 2003  
Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

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5. Upon receiving the invention disclosures, they were placed in line to be prepared.
6. During the period between approximately September 5, 2001 and January 15, 2002, the parent of the above-referenced patent application was one of a number of backlogged unrelated cases on which I worked reasonably hard during this period and carried out expeditiously. My practice at the time was to attend to the preparation of patent application cases having bar dates first. I attended to the remaining patent application cases (including the parent of the above-referenced patent application) generally in the chronological order in which the patent application cases were received.
7. An invoice issued by Dicke, Billig & Czaja for professional services rendered in preparing the parent of the above-referenced application is attached as Exhibit 2. In the invoice, the initials "MBM" (for "Matthew B. McNutt") are my initials.
8. As indicated on the invoice, I conducted a telephone interview with the inventors to discuss the subject invention of the invention disclosures on January 16, 2002.
9. After I interviewed the inventors on January 16, 2002, and continuing until on or around January 31, 2002, I prepared the parent of the above-referenced patent application.
10. On February 4, 2004, patent attorney Steve Dicke of Dicke, Billig & Czaja emailed to HP Managing Attorney Steven R. Ormiston an inventor-approved draft of the parent of the above-referenced patent application (*see Exhibit 3, attached*).
11. On February 13, 2002, HP Managing Attorney Steven R. Ormiston emailed patent attorney Steve Dicke with comments on the parent of the above-referenced patent application (*see Exhibit 3, attached*).
12. Between February 13, 2002 and about April 1, 2002, I revised the patent application in view of the comments of HP Managing Attorney Steven R. Ormiston.

**Declaration of Matthew B. McNutt**  
Applicant: Manoj K. Bhattacharyya et al.  
Serial No.: 10/735,941  
Filed: Dec. 15, 2003  
Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

---

13. On April 2, 2002, a Declaration and Power of Attorney and Assignment documents for the parent of the above-referenced patent application were sent to HP Legal Assistant Chris Griffin for obtaining inventor signatures (*see* Exhibit 4, attached).

14. The declaration was executed by the inventors on or around, 2002 (*see* Exhibit 5, attached).

15. The parent of the above-referenced patent application was subsequently with the U.S. Patent and Trademark Office on April 18, 2002.

As a person signing below, I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Matthew B. McNutt Date: 7/13/05  
Matthew B. McNutt

# DICKE, BILLIG & CZAJA, P.A.

Patent • Trademark • Copyright  
ATTORNEYS

Suite 1250 • 701 Building • 701 Fourth Avenue South • Minneapolis, Minnesota 55415  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

Jolene A. Neby  
Direct Dial: (612) 573-0439

September 5, 2001

Mr. Matt McNutt  
Dicke, Billig, & Czaja, P.A.  
4210 Spicewood Springs Road  
Suite 104  
Austin, TX 78759

RE: New U.S. Patent Application for:  
**Permalloy/Soft Magnetic Material Coating/Shielding to Protect MRAM From Stray Field**  
H-P File No.: 10014277-1  
DBC File No.: H302.226.101

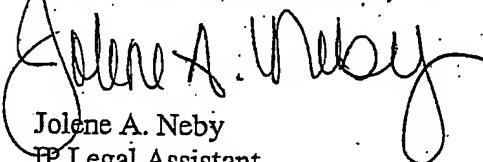
Hi Matt,

Please proceed with preparing a patent application based on the above-referenced file. You may contact the inventors directly for further information you will need in order to prepare this application. The HP primary technical contact is Manoj Bhattacharyya of Palo Alto, California, who can be reached at (650) 857-7475. This application does require a search and the preparation of EP claims and abstract.

If you have any questions regarding this matter or HP procedures, which we may want to touch base on, please contact Steve or me at (612) 573-0439.

Regards,

DICKE, BILLIG & CZAJA, P.A.

  
Jolene A. Neby  
IP Legal Assistant

Enclosures

# DICKE, BILLIG & CZAJA, PLLC

Patent • Trademark • Copyright  
ATTORNEYS

Fifth Street Towers • 100 South Fifth Street • Suite 2250 • Minneapolis, Minnesota 55402  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

Hewlett-Packard Company  
Financial Administrator - PMHP  
Legal Dept. M/S 1068  
HP Development Co., LP, PO Box 10301  
Palo Alto CA 94303-0890  
U.S.A.

Page: 1  
01/31/2002  
Account No: 303-216101M  
Invoice No: 18109

Attn: Philip Lyren

MAGNETIC SHIELDING FOR MRAM DEVICES  
10014277-1

### Fees

Rate      Hours

01/16/2002 MBM	Phone interview with inventor. Conduct prior art search.	1.00	[REDACTED]
01/17/2002 MBM	Review prior art. Draft claims for patent application.	2.80	[REDACTED]
01/18/2002 MBM	Prepare patent application.	3.80	[REDACTED]
01/21/2002 MBM	Prepare patent application.	3.90	[REDACTED]
01/22/2002 MBM	Prepare patent application.	6.50	[REDACTED]
01/29/2002 MBM	Amend patent application per inventors comments.	7.80	[REDACTED]
01/30/2002 MBM	Amend patent application per inventors comments. Draft additional claims.	6.10	[REDACTED]
01/31/2002 PAR	Paralegal services in preparation of Assignment document; in preparation of Declaration; in forwarding documents for execution; in reviewing application and drawings for accuracy; in preparation of transmittal and calculation of fees; in filing application and related documents at U.S. Patent and Trademark Office; in completion of client checklist; in updating Request for Quote; in updating docket dates; in updating CaseMaster re: filing of documents; in reporting matter	2.10	[REDACTED]

Hewlett-Packard Company

MAGNETIC SHIELDING FOR MRAM DEVICES  
10014277-1

Page: 2  
01/31/2002  
Account No: 303-216101M  
Invoice No: 18109

		Rate	Hours
PAR	to client. Paralegal services in preparation of Information Disclosure Statement; in preparation of PTO-1449 form; in compilation of related art; in preparation of transmittal sheet; in filing documents at U.S. Patent and Trademark Office; in updating CaseMaster re: filing of documents; in reporting matter to client.		1.00
MBM	Phone conference with inventors. Revise claims and figures per inventors comments.		1.00
	For Current Services Rendered		2.10
			<u>38.10</u>

Expenses

01/31/2002

Advances

01/30/2002

\*\*\* Task Code Not Found

Terms: Balance Due upon Receipt  
F.I.N. 52-2386944  
Questions? Please call Quiana Reid at (612) 573-0121.  
E-mail: [qreid@dbclaw.com](mailto:qreid@dbclaw.com)

1  
Exhibit 3

From: "ORMISTON,STEVEN (Non-HP-Boise,ex1)" <steve\_ormiston@non.hp.com>  
To: Steve Dicke <sdicke@dbclaw.com>  
Date: Wed, Feb 13, 2002 2:37 PM  
Subject: RE: HP docket no. 10014277-1; DBC file no. H302.226.101

Steve,

Good case. You may want to [REDACTED] 2  
[REDACTED] 3

[REDACTED] 4hanks. Steve Ormiston.

Steven R. Ormiston  
Outsourcing Manager, Patent Attorney  
Hewlett-Packard Co.  
Boise, ID  
(208) 396-2544  
steve\_ormiston@non.hp.com

—Original Message—

From: Steve Dicke [mailto:sdicke@dbclaw.com]  
Sent: Monday, February 04, 2002 3:27 PM  
To: steve\_ormiston@non.hp.com  
Cc: Jolene Neby; Matthew McNutt  
Subject: HP docket no. 10014277-1; DBC file no. H302.226.101

Steve:

Attached is a patent application for the HP Invention Disclosure titled "Permalloy/Soft Magnetic Material Coating/Shielding to Protect MRAM" (HP docket no. 10014277-1; DBC file no. H302.226.101). EP claims and abstract are also attached.

The application has been reviewed and approved by the inventors.

Regards,

Steven E. Dicke

DICKE, BILLIG & CZAJA, P.A.  
Intellectual Property Law Attorneys  
701 Fourth Ave. South, Suite 1250  
Minneapolis, MN 55415

Tel: 612.573.2002  
Fax: 612.573.2005  
Email: sdicke@dbclaw.com

This electronic mail transmission may contain confidential or privileged information. If you believe that you have received the message in error, please notify the sender by reply transmission and delete the message without copying it or disclosing it.

CC: "Angela Tollerud (E-mail)" <angela\_tollerud@non.hp.com>

# DICKE, BILLIG & CZAJA, P.A.

Patent • Trademark • Copyright  
ATTORNEYS

Suite 1250 • 701 Building • 701 Fourth Avenue South • Minneapolis, Minnesota 55415  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

April 2, 2002

Ms. Chris Griffin  
HEWLETT-PACKARD COMPANY  
Legal Department - 314  
11307 Chinden Blvd.  
Boise, ID 83707-1021

VIA FEDERAL EXPRESS

Re: New U.S. Patent Application for:  
**MAGNETIC SHIELDING FOR MRAM DEVICES**  
HP File No.: 10014277-1  
DBC File No.: 302.226.101

Dear Chris:

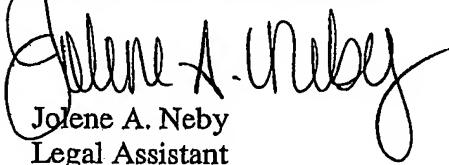
Enclosed are the Declaration and Power of Attorney and Assignment documents for inventor signature for the above-identified application. This application has already been reviewed and approved for filing by the inventor and Steve Ormiston. Please have the inventor execute these documents.

Please return the executed Declaration and Power of Attorney document to my attention via overnight Federal Express. We will then file the application, with formal papers, with the U.S. Patent Office. It is our understanding that you will retain the Assignment document for filing by HP at a later date.

If you have any questions regarding this matter, please feel free to contact me at (612) 573-0439.

Sincerely,

DICKE, BILLIG & CZAJA, P.A.

  
Jolene A. Neby  
Legal Assistant

Enclosures



THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Manoj K. Bhattacharyya et al. Examiner: H. Jey Tsai  
Serial No.: 10/735,941 Group Art Unit: 2812  
Filed: Dec. 15, 2003 Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

DECLARATION OF PRIOR INVENTION UNDER 37 C.F.R. § 1.131

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

This Declaration is submitted to establish prior invention of the subject matter of the present patent application. The person making this Declaration is the joint inventor, Sarah Morris Brandenberger.

Accompanying this Declaration are Exhibits A through C to establish conception of the subject matter of the present patent application in the United States prior to the filing date of January 15, 2002, of U.S. Patent Application Pub. No. 2003/0132494 ("Tuttle et al.") coupled with due diligence from prior to the Tuttle et al. filing date to the April 18, 2002 filing date of the parent of the present patent application (i.e., constructive reduction to practice).

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Exhibit A (2 pages) includes a redacted HP Invention Disclosure submitted by the joint inventors Manoj Bhattacharyya, Darrel Bloomquist, and Anthony Holden and received by the HP Legal Department prior to January 15, 2002. In addition, this invention disclosure was witnessed prior to January 15, 2002. This invention disclosure was assigned HP Patent Disclosure No. 10014277 and describes subject matter of the present patent application.

Exhibit B (2 pages) includes a redacted HP Invention Disclosure submitted by the joint inventors Sarah Brandenberger, Darrel Bloomquist, and Manoj Bhattacharyya and received by the HP Legal Department prior to January 15, 2002. In addition, this invention disclosure was witnessed prior to January 15, 2002. This invention disclosure was assigned HP Patent Disclosure No. 10014284 and describes subject matter of the present patent

Declaration under 37 C.F.R. § 1.131  
Applicant: Manoj K. Bhattacharyya et al.  
Serial No.: 10/735,941  
Filed: Dec. 15, 2003  
Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

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application. The HP Patent Disclosure Nos. 10014277 (Exhibit A) and 10014284 (Exhibit B) were combined for purposes of preparation and filing of the patent application.

Exhibit C (8 pages, including attachments) is the Declaration of Matthew B. McNutt, the patent attorney assigned to prepare the parent of the present application, showing due diligence in preparation of the patent application from prior to the Tuttle et al. January 15, 2002, filing date to the April 18, 2002 filing date of the parent of the present patent application. .

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Name: Sarah Morris Brandenberger Date: 7/14/05  
Sarah Morris Brandenberger

Write in Dark Ink on Front Side Only, Please

## HP Invention Disclosure



PDNO

10014277

DATE RCVD

2

ATTORNEY

## Descriptive Title of Invention:

Permalloy/soft mag. material coating/shielding to protect MRAM from static

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [ Mar 22, 01 ]

( SARAH BRANDENBERGER has an almost identical. Please combine

Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name
--------------	------	-----------	--------	----------	-------------------

267954	MANOJ BHATTACHARYYA	lBhattacharya	1-857-7475	Palo Alto 2V-8	0419- 5213
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49084	Darrel Bloomquist	Daniel Bloomquist			
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Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name
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464700 ANTHONY HOLDEN Offold

Signature of Witness(es) The invention was first explained to, and understood by, me (us) on this date: [ ]

Full Name	Signature	Date of Signature
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## Description of Invention:

## A. Description of the construction and operation of the invention

A coating of soft magnetic material can be applied on top of outside plastic or other material.

Coating  
Multiple layers with different orientations easy axes to block fields of different orientations can also be added

An alternate design/implementation can be making the packaging material out of magnetically soft plastic.

## B. Advantages of the Invention over what has been done before.

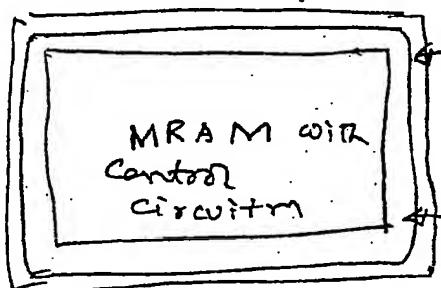
MRAM cells are switched by applying small (of the order of 50-100 Oe) magnetic fields generated by write conductors (word and bit lines). The magnetically written bits are thus sensitive to external fields. The <sup>static</sup> magnetic fields can be earth magnetic field or any field coming out of a motor or other devices.

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C. Problems solved by the invention.

D. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.).

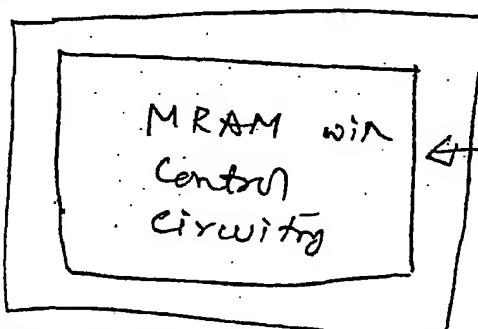
Pictures/Flowcharts (if any):



magnetic  
Coating of one or  
more layers

plastic or  
similar  
packaging

or



magnetic  
material  
soft packaging

Write in Dark Ink on Front Side Only, Please



PDNO 10014284

DATE RCVD

2 ATTORNEY

## Descriptive Title of Invention:

Method of preventing external degradation of MRAM

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [ 3/21/01 ]

358135	SARAH Brandenburg	Sarah Brandenburg	x61017 400	PSB	
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name

49084	Darrel Bloomquist	DBloomquist			
26794	Manoj Bhattacharya	mbhattacharya			
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name

Signature of Witness(es) The invention was first explained to, and understood by, me (us) on this date: [ ]

Full Name	Signature	Date of Signature
Steve C. Johnson	Signature	[ 3 ]

## Description of Invention:

## A. Description of the construction and operation of the invention (

provide shielding similar to faraday cage or solid shielded  
This can either be on the chip or external  
packaging.

## B. Advantages of the invention over what has been done before.

as far as I know - no shielding has been used on  
MRAM. This could ~~also~~ prevent outside fields from  
writing. The casing may also have the property of  
distributing temperature.

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C. Problems solved by the invention.

prevents external fields "corroding" Mean

D. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.).

Don't know of prior solutions

Pictures/Flowcharts (if any):

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Manoj K. Bhattacharyya et al.	Examiner:	H. Jey Tsai
Serial No.:	10/735,941	Group Art Unit:	2812
Filed:	Dec. 15, 2003	Docket No.:	10014277-2
Title:	<b>MAGNETIC SHIELDING FOR MRAM DEVICES</b>		

---

**DECLARATION OF MATTHEW B. MCNUTT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

This Declaration is submitted in support of Declarations of Prior Invention Under 37 C.F.R. 1.131 submitted by joint inventors of the above-referenced patent application. This Declaration is submitted to establish due diligence in the preparation and filing of the parent of the above-referenced patent application in the United States from prior to the filing date of January 15, 2002, of U.S. Patent Application Pub. No. 2003/0132494 ("Tuttle et al.") to the April 18, 2002 filing date of the parent of the above-referenced patent application (i.e., constructive reduction to practice).

I, Matthew B. McNutt, state as follows:

1. I am the patent attorney responsible for preparing the above-referenced patent application (serial no. 10/735,941, filed December 15, 2003, and assigned HP File No. 10014277-2), and also the parent of the above-referenced patent application (serial no. 10/125,095, filed April 18, 2002, and assigned HP File No. 10014277-1).
2. The above-referenced patent application (HP File No. 10014277-2) presents claims that were withdrawn from consideration in the parent patent application (HP File No. 10014277-1) as being directed to a non-elected invention.
3. I have been employed by the law firm of Dicke, Billig & Czaja since 2001.
4. I received invention disclosures (attached as Exhibit A and Exhibit B to the Declarations of Manoj Bhattacharyya, Anthony Holden, and Sarah Brandenberger) for purposes of preparing the parent of the above-referenced patent application on the subject invention of the invention disclosures on or around September 5, 2001 (see Exhibit 1, attached).

Declaration of Matthew B. McNutt  
Applicant: Manoj K. Bhattacharyya et al.  
Serial No.: 10/735,941  
Filed: Dec. 15, 2003  
Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

---

5. Upon receiving the invention disclosures, they were placed in line to be prepared.
6. During the period between approximately September 5, 2001 and January 15, 2002, the parent of the above-referenced patent application was one of a number of backlogged unrelated cases on which I worked reasonably hard during this period and carried out expeditiously. My practice at the time was to attend to the preparation of patent application cases having bar dates first. I attended to the remaining patent application cases (including the parent of the above-referenced patent application) generally in the chronological order in which the patent application cases were received.
7. An invoice issued by Dicke, Billig & Czaja for professional services rendered in preparing the parent of the above-referenced application is attached as Exhibit 2. In the invoice, the initials "MBM" (for "Matthew B. McNutt") are my initials.
8. As indicated on the invoice, I conducted a telephone interview with the inventors to discuss the subject invention of the invention disclosures on January 16, 2002.
9. After I interviewed the inventors on January 16, 2002, and continuing until on or around January 31, 2002, I prepared the parent of the above-referenced patent application.
10. On February 4, 2004, patent attorney Steve Dicke of Dicke, Billig & Czaja emailed to HP Managing Attorney Steven R. Ormiston an inventor-approved draft of the parent of the above-referenced patent application (*see Exhibit 3, attached*).
11. On February 13, 2002, HP Managing Attorney Steven R. Ormiston emailed patent attorney Steve Dicke with comments on the parent of the above-referenced patent application (*see Exhibit 3, attached*).
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Serial No.: 10/735,941  
Filed: Dec. 15, 2003  
Docket No.: 10014277-2  
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13. On April 2, 2002, a Declaration and Power of Attorney and Assignment documents for the parent of the above-referenced patent application were sent to HP Legal Assistant Chris Griffin for obtaining inventor signatures (*see Exhibit 4, attached*).
14. The declaration was executed by the inventors on or around, 2002 (*see Exhibit 5, attached*).
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As a person signing below, I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Matthew B. McNutt Date: 7/13/05  
Matthew B. McNutt

# DICKE, BILLIG & CZAJA, P.A.

Patent • Trademark • Copyright  
ATTORNEYS

Suite 1250 • 701 Building • 701 Fourth Avenue South • Minneapolis, Minnesota 55415  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

Jolene A. Neby  
Direct Dial: (612) 573-0439

September 5, 2001

Mr. Matt McNutt  
Dicke, Billig, & Czaja, P.A.  
4210 Spicewood Springs Road  
Suite 104  
Austin, TX 78759

RE: New U.S. Patent Application for:  
**Permalloy/Soft Magnetic Material Coating/Shielding to Protect MRAM From Stray Field**  
H-P File No.: 10014277-1  
DBC File No.: H302.226.101

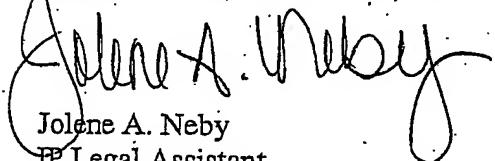
Hi Matt,

Please proceed with preparing a patent application based on the above-referenced file. You may contact the inventors directly for further information you will need in order to prepare this application. The HP primary technical contact is Manoj Bhattacharyya of Palo Alto, California, who can be reached at (650) 857-7475. This application does require a search and the preparation of EP claims and abstract.

If you have any questions regarding this matter or HP procedures, which we may want to touch base on, please contact Steve or me at (612) 573-0439.

Regards,

DICKE, BILLIG & CZAJA, P.A.

  
Jolene A. Neby  
IP Legal Assistant

Enclosures

# DICKE, BILLIG & CZAJA, PLLC

**Patent • Trademark • Copyright  
ATTORNEYS**

Fifth Street Towers • 100 South Fifth Street • Suite 2250 • Minneapolis, Minnesota 55402  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

Hewlett-Packard Company  
Financial Administrator - PMHP  
Legal Dept. M/S 1068  
HP Development Co., LP, PO Box 10301  
Palo Alto CA 94303-0890  
U.S.A.

Attn: Philip Lyren

MAGNETIC SHIELDING FOR MRAM DEVICES  
10014277-1

Page: 1

01/31/2002

Account No: 303-216101M  
Invoice No: 18109

		<u>Fees</u>	Rate	Hours
01/16/2002	MBM	Phone interview with inventor. Conduct prior art search.		1.00
01/17/2002	MBM	Review prior art. Draft claims for patent application.		2.80
01/18/2002	MBM	Prepare patent application.		3.80
01/21/2002	MBM	Prepare patent application.		3.90
01/22/2002	MBM	Prepare patent application.		6.50
01/29/2002	MBM	Amend patent application per inventors comments.		7.80
01/30/2002	MBM	Amend patent application per inventors comments. Draft additional claims.		6.10
01/31/2002	PAR	Paralegal services in preparation of Assignment document; in preparation of Declaration; in forwarding documents for execution; in reviewing application and drawings for accuracy; in preparation of transmittal and calculation of fees; in filing application and related documents at U.S. Patent and Trademark Office; in completion of client checklist; in updating Request for Quote; in updating docket dates; in updating CaseMaster re: filing of documents; in reporting matter		2.10

Hewlett-Packard Company

MAGNETIC SHIELDING FOR MRAM DEVICES  
10014277-1

Page: 2  
01/31/2002  
Account No: 303-216101M  
Invoice No: 18109

		Rate	Hours
PAR	to client. Paralegal services in preparation of Information Disclosure Statement; in preparation of PTO-1449 form; in compilation of related art; in preparation of transmittal sheet; in filing documents at U.S. Patent and Trademark Office; in updating CaseMaster re: filing of documents; in reporting matter to client.		1.00
MBM	Phone conference with inventors. Revise claims and figures per inventors comments.		1.00
	For Current Services Rendered		2.10
			<u>38.10</u>

Expenses

01/31/2002

Advances

01/30/2002

\*\*\* Task Code Not Found

Terms: Balance Due upon Receipt  
F.I.N. 52-2386944  
Questions? Please call Quiana Reid at (612) 573-0121.  
E-mail: greid@dbclaw.com

## Exhibit 3

From: "ORMISTON,STEVEN (Non-HP-Boise,ex1)" <steve\_ormiston@non.hp.com>  
To: Steve Dicke <sdicke@dbclaw.com>  
Date: Wed, Feb 13, 2002 2:37 PM  
Subject: RE: HP docket no. 10014277-1; DBC file no. H302.226.101

Steve,

Good case. You may want to [REDACTED] 2  
[REDACTED] 3

[REDACTED] 4hanks. Steve Ormiston.

Steven R. Ormiston  
Outsourcing Manager, Patent Attorney  
Hewlett-Packard Co.  
Boise, ID  
(208) 396-2544  
steve\_ormiston@non.hp.com

-----Original Message-----

From: Steve Dicke [mailto:sdicke@dbclaw.com]  
Sent: Monday, February 04, 2002 3:27 PM  
To: steve\_ormiston@non.hp.com  
Cc: Jolene Neby; Matthew McNutt  
Subject: HP docket no. 10014277-1; DBC file no. H302.226.101

Steve:

Attached is a patent application for the HP Invention Disclosure titled "Permalloy/Soft Magnetic Material Coating/Shielding to Protect MRAM" (HP docket no. 10014277-1; DBC file no. H302.226.101). EP claims and abstract are also attached.

The application has been reviewed and approved by the inventors.

Regards,

Steven E. Dicke

DICKE, BILLIG & CZAJA, P.A.  
Intellectual Property Law Attorneys  
701 Fourth Ave. South, Suite 1250  
Minneapolis, MN 55415

Tel: 612.573.2002  
Fax: 612.573.2005  
Email: sdicke@dbclaw.com

This electronic mail transmission may contain confidential or privileged information. If you believe that you have received the message in error, please notify the sender by reply transmission and delete the message without copying it or disclosing it.

CC: "Angela Tollerud (E-mail)" <angela\_tollerud@non.hp.com>

# DICKE, BILLIG & CZAJA, P.A.

**Patent • Trademark • Copyright  
ATTORNEYS**

Suite 1250 • 701 Building • 701 Fourth Avenue South • Minneapolis, Minnesota 55415  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

April 2, 2002

Ms. Chris Griffin  
**HEWLETT-PACKARD COMPANY**  
Legal Department - 314  
11307 Chinden Blvd.  
Boise, ID 83707-1021

**VIA FEDERAL EXPRESS**

Re: New U.S. Patent Application for:  
**MAGNETIC SHIELDING FOR MRAM DEVICES**  
HP File No.: 10014277-1  
DBC File No.: 302.226.101

Dear Chris:

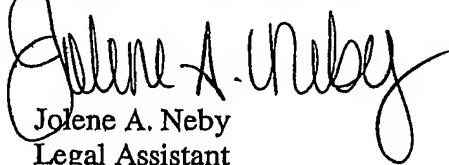
Enclosed are the Declaration and Power of Attorney and Assignment documents for inventor signature for the above-identified application. This application has already been reviewed and approved for filing by the inventor and Steve Ormiston. Please have the inventor execute these documents.

Please return the executed Declaration and Power of Attorney document to my attention via overnight Federal Express. We will then file the application, with formal papers, with the U.S. Patent Office. It is our understanding that you will retain the Assignment document for filing by HP at a later date.

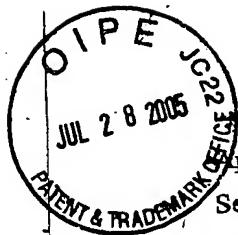
If you have any questions regarding this matter, please feel free to contact me at (612) 573-0439.

Sincerely,

**DICKE, BILLIG & CZAJA, P.A.**

  
Jolene A. Neby  
Legal Assistant

Enclosures



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Manoj K. Bhattacharyya et al.  
Serial No.: 10/735,941  
Filed: Dec. 15, 2003  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

Examiner: H. Jey Tsai  
Group Art Unit: 2812  
Docket No.: 10014277-2

**DECLARATION OF PRIOR INVENTION UNDER 37 C.F.R. § 1.131**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

This Declaration is submitted to establish prior invention of the subject matter of the present patent application. The person making this Declaration is the joint inventor, Manoj K. Bhattacharyya.

Accompanying this Declaration are Exhibits A through C to establish conception of the subject matter of the present patent application in the United States prior to the filing date of January 15, 2002, of U.S. Patent Application Pub. No. 2003/0132494 ("Tuttle et al.") coupled with due diligence from prior to the Tuttle et al. filing date to the April 18, 2002 filing date of the parent of the present patent application (i.e., constructive reduction to practice).

The present application (application no. 10/735,941, filed December 15, 2003, and assigned HP File No. 10014277-2) presents claims that were withdrawn from consideration in the parent application (application no. 10/125,095, filed April 18, 2002, and assigned HP File No. 10014277-1) as being directed to a non-elected invention.

Exhibit A (2 pages) includes a redacted HP Invention Disclosure submitted by the joint inventors Manoj Bhattacharyya, Darrel Bloomquist, and Anthony Holden and received by the HP Legal Department prior to January 15, 2002. In addition, this invention disclosure was witnessed prior to January 15, 2002. This invention disclosure was assigned HP Patent Disclosure No. 10014277 and describes subject matter of the present patent application.

Exhibit B (2 pages) includes a redacted HP Invention Disclosure submitted by the joint inventors Sarah Brandenberger, Darrel Bloomquist, and Manoj Bhattacharyya and received by the HP Legal Department prior to January 15, 2002. In addition, this invention disclosure was witnessed prior to January 15, 2002. This invention disclosure was assigned HP Patent Disclosure No. 10014284 and describes subject matter of the present patent

Declaration under 37 C.F.R. § 1.131  
Applicant: Manoj K. Bhattacharyya et al.  
Serial No.: 10/735,941  
Filed: Dec. 15, 2003  
Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

application. The HP Patent Disclosure Nos. 10014277 (Exhibit A) and 10014284 (Exhibit B) were combined for purposes of preparation and filing of the patent application.

Exhibit C (8 pages, including attachments) is the Declaration of Matthew B. McNutt, the patent attorney assigned to prepare the parent of the present application, showing due diligence in preparation of the patent application from prior to the Tuttle et al. January 15, 2002, filing date to the April 18, 2002 filing date of the parent of the present patent application.

From these exhibits, it can be seen that the subject matter of the present patent application was conceived prior to the filing date of January 15, 2002 of U.S. Patent Application Pub. No. 2003/0132494, coupled with due diligence from prior to the filing date of the reference to the filing date of the parent of the present patent application (i.e., constructive reduction to practice).

As a person signing below, I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Manoj K. Bhattacharyya Date: 7/14/05  
Manoj K. Bhattacharyya

Write in Dark Ink on Front Side Only, Please

## HP Invention Disclosure



PDNO

10014277

DATE RCVD

2

ATTORNEY

## Descriptive Title of Invention:

Permalloy/soft mag. material coating/shielding to protect MRAM from stro

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [ Mar 22, 01 ].

( SARAH BRANDENBERGER has an almost identical. Please combine

Employee No. Name Signature Telnet Mailstop Entity &amp; Lab Name

267954 MANOJ BHATTACHARYYA *Manoj Bhattacharya* 1-857-7475, Palermo 0419-  
49084 Darrel Bloomquist *Darrel Bloomquist* 24-8 5213

Employee No. Name Signature Telnet Mailstop Entity &amp; Lab Name

464700 ANTHONY HOLDEN *Anthony Holden*

Signature of Witness(es) The invention was first explained to, and understood by, me (us) on this date: [ ]

Full Name Signature Date of Signature  
*Steven C. Johnson* [3]

## Description of Invention:

## A. Description of the construction and operation of the invention

A coating of soft magnetic material can be applied on top of outside plastic or other <sup>packaging</sup> material.

Multiple layers with different orientations easy axes to block fields of different orientations can also be added

~~Also~~ An alternate design/implementation can be making the packaging material out of magnetically soft plastic.

## B. Advantages of the invention over what has been done before.

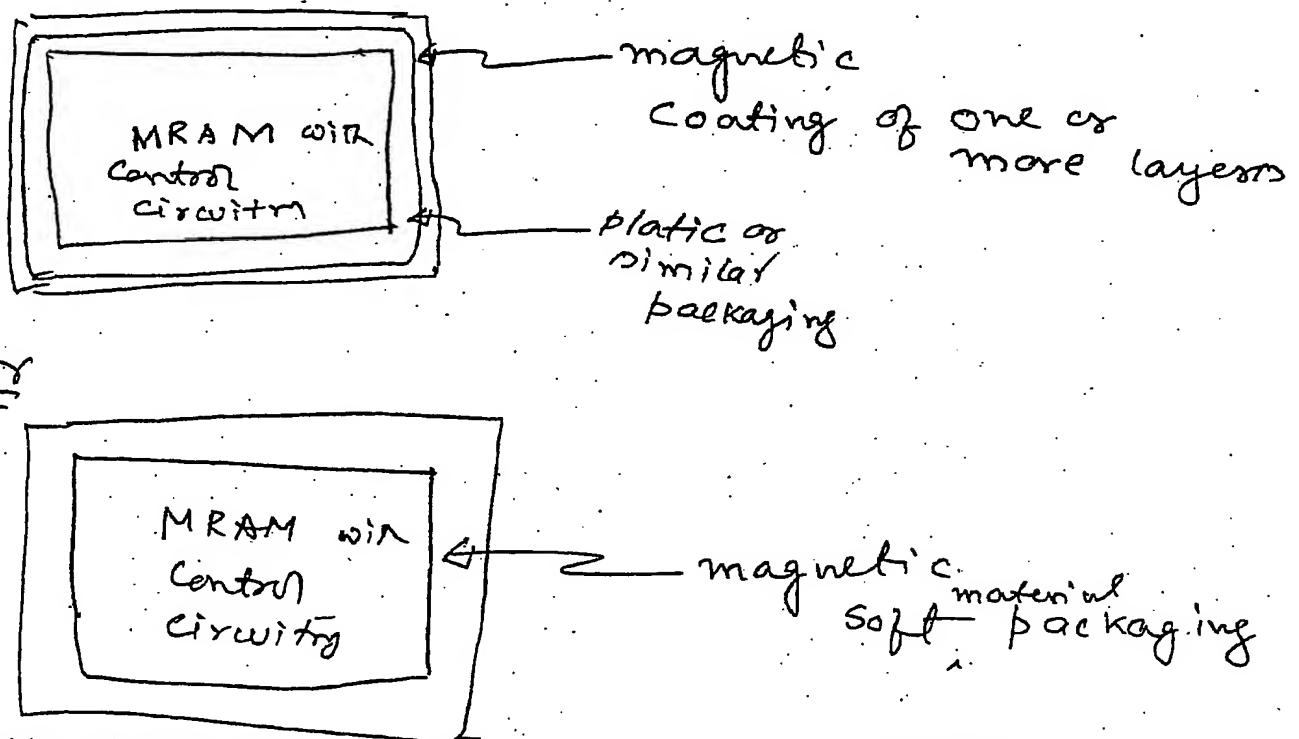
MRAM cells are switched by applying small (of the order of 50-100 Oe) magnetic fields generated by write conductors (word and bit lines). The magnetically written bits are thus sensitive to external fields. The magnetic fields can be earth magnetic field or any field coming out of a motor or other devices.

Write in Dark Ink on Front Side Only, Please

C. Problems solved by the invention.

D. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.).

Pictures/Flowcharts (if any):



Write in Dark Ink on Front Side Only, Please



PDNO 10014284

DATE RCVD

2 ATTORNEY

## Descriptive Title of Invention:

Method of preventing external degradation of MoRAM

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [ 3/21/01 ].

35B135	Saresh Bandelberg	Saresh Bandelberg	x66017 400	PSB	
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name

49084	Darrel Bloomquist	DBloomquist			
267954	Manoj Bhattacharya	mbattacharya			
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name

Signature of Witness(es) The invention was first explained to, and understood by, me (us) on this date: [ ]

Full Name	Signature	Date of Signature
Steve C. Johnson		[ ] 3

## Description of Invention:

## A. Description of the construction and operation of the invention

provide shielding similar to faraday cage or solid shield  
This can either be on the chip or external packaging.

## B. Advantages of the invention over what has been done before.

as far as I know - no shielding has been used on  
MRAM. This could ~~also~~ prevent outside fields from  
writing. The casing may also have the property of  
distributing temperature.

Write in Dark Ink on Front Side Only, Please

C. Problems solved by the invention.

prevents external fields "distorting" Mr. ran

D. Prior solutions and their disadvantages (If available, attach copies of product literature, technical articles, patents, etc.).

Don't know of prior solutions

Pictures/Flowcharts (if any):

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Manoj K. Bhattacharyya et al. Examiner: H. Jey Tsai  
Serial No.: 10/735,941 Group Art Unit: 2812  
Filed: Dec. 15, 2003 Docket No.: 10014277-2  
Title: MAGNETIC SHIELDING FOR MRAM DEVICES

---

**DECLARATION OF MATTHEW B. MCNUTT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

This Declaration is submitted in support of Declarations of Prior Invention Under 37 C.F.R. 1.131 submitted by joint inventors of the above-referenced patent application. This Declaration is submitted to establish due diligence in the preparation and filing of the parent of the above-referenced patent application in the United States from prior to the filing date of January 15, 2002, of U.S. Patent Application Pub. No. 2003/0132494 ("Tuttle et al.") to the April 18, 2002 filing date of the parent of the above-referenced patent application (i.e., constructive reduction to practice).

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**Declaration of Matthew B. McNutt**

Applicant: Manoj K. Bhattacharyya et al.

Serial No.: 10/735,941

Filed: Dec. 15, 2003

Docket No.: 10014277-2

Title: MAGNETIC SHIELDING FOR MRAM DEVICES

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Name: Matthew B. McNutt Date: 7/13/05  
Matthew B. McNutt

# DICKE, BILLIG & CZAJA, P.A.

Patent • Trademark • Copyright  
ATTORNEYS

Suite 1250 • 701 Building • 701 Fourth Avenue South • Minneapolis, Minnesota 55415  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

Jolene A. Neby  
Direct Dial: (612) 573-0439

September 5, 2001

Mr. Matt McNutt  
Dicke, Billig, & Czaja, P.A.  
4210 Spicewood Springs Road  
Suite 104  
Austin, TX 78759

RE: New U.S. Patent Application for:  
**Permalloy/Soft Magnetic Material Coating/Shielding to Protect MRAM From Stray Field**  
H-P File No.: 10014277-1  
DBC File No.: H302.226.101

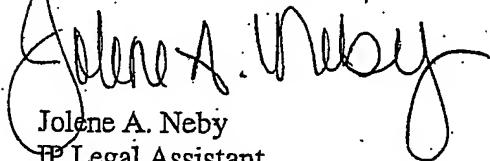
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Please proceed with preparing a patent application based on the above-referenced file. You may contact the inventors directly for further information you will need in order to prepare this application. The HP primary technical contact is Manoj Bhattacharyya of Palo Alto, California, who can be reached at (650) 857-7475. This application does require a search and the preparation of EP claims and abstract.

If you have any questions regarding this matter or HP procedures, which we may want to touch base on, please contact Steve or me at (612) 573-0439.

Regards,

DICKE, BILLIG & CZAJA, P.A.

  
Jolene A. Neby  
IP Legal Assistant

Enclosures

# DICKE, BILLIG & CZAJA, PLLC

## Patent • Trademark • Copyright ATTORNEYS

Fifth Street Towers • 100 South Fifth Street • Suite 2250 • Minneapolis, Minnesota 55402  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

Hewlett-Packard Company  
Financial Administrator - PMHP  
Legal Dept. M/S 1068  
HP Development Co., LP, PO Box 10301  
Palo Alto CA 94303-0890  
U.S.A.

Page: 1  
01/31/2002

Account No: 303-216101M  
Invoice No: 18109

Attn: Philip Lyren

MAGNETIC SHIELDING FOR MRAM DEVICES  
10014277-1

### Fees

Rate      Hours

01/16/2002 MBM	Phone interview with inventor. Conduct prior art search.	1.00	[REDACTED]
01/17/2002 MBM	Review prior art. Draft claims for patent application.	2.80	[REDACTED]
01/18/2002 MBM	Prepare patent application.	3.80	[REDACTED]
01/21/2002 MBM	Prepare patent application.	3.90	[REDACTED]
01/22/2002 MBM	Prepare patent application.	6.50	[REDACTED]
01/29/2002 MBM	Amend patent application per inventors comments.	7.80	[REDACTED]
01/30/2002 MBM	Amend patent application per inventors comments. Draft additional claims.	6.10	[REDACTED]
01/31/2002 PAR	Paralegal services in preparation of Assignment document; in preparation of Declaration; in forwarding documents for execution; in reviewing application and drawings for accuracy; in preparation of transmittal and calculation of fees; in filing application and related documents at U.S. Patent and Trademark Office; in completion of client checklist; in updating Request for Quote; in updating docket dates; in updating CaseMaster re: filing of documents; in reporting matter	2.10	[REDACTED]

Hewlett-Packard Company

MAGNETIC SHIELDING FOR MRAM DEVICES  
10014277-1

Page: 2  
01/31/2002  
Account No: 303-216101M  
Invoice No: 18109

		Rate	Hours
PAR	to client. Paralegal services in preparation of Information Disclosure Statement; in preparation of PTO-1449 form; in compilation of related art; in preparation of transmittal sheet; in filing documents at U.S. Patent and Trademark Office; in updating CaseMaster re: filing of documents; in reporting matter to client.	1.00	
MBM	Phone conference with inventors. Revise claims and figures per inventors comments.	1.00	
	For Current Services Rendered	2.10	
			38.10

Expenses

01/31/2002

Advances

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Questions? Please call Quiiana Reid at (612) 573-0121.  
E-mail: qreid@dbclaw.com

## Exhibit 3

From: "ORMISTON,STEVEN (Non-HP-Boise,ex1)" <steve\_ormiston@non.hp.com>  
To: Steve Dicke <sdicke@dbclaw.com>  
Date: Wed, Feb 13, 2002 2:37 PM  
Subject: RE: HP docket no. 10014277-1; DBC file no. H302.226.101

Steve,

Good case. You may want to [REDACTED] 2

[REDACTED] 3

[REDACTED] 4 Thanks. Steve Ormiston.

Steven R. Ormiston  
Outsourcing Manager, Patent Attorney  
Hewlett-Packard Co.  
Boise, ID  
(208) 396-2544  
steve\_ormiston@non.hp.com

—Original Message—

From: Steve Dicke [mailto:sdicke@dbclaw.com]  
Sent: Monday, February 04, 2002 3:27 PM  
To: steve\_ormiston@non.hp.com  
Cc: Jolene Neby; Matthew McNutt  
Subject: HP docket no. 10014277-1; DBC file no. H302.226.101

Steve:

Attached is a patent application for the HP Invention Disclosure titled "Permalloy/Soft Magnetic Material Coating/Shielding to Protect MRAM" (HP docket no. 10014277-1; DBC file no. H302.226.101). EP claims and abstract are also attached.

The application has been reviewed and approved by the inventors.

Regards,

Steven E. Dicke

DICKE, BILLIG & CZAJA, P.A.  
Intellectual Property Law Attorneys  
701 Fourth Ave. South, Suite 1250  
Minneapolis, MN 55415

Tel: 612.573.2002  
Fax: 612.573.2005  
Email: sdicke@dbclaw.com

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CC: "Angela Tollerud (E-mail)" <angela\_tollerud@non.hp.com>



## Exhibit 4

DICKE, BILLIG & CZAJA, P.A.

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ATTORNEYS**

Suite 1250 • 701 Building • 701 Fourth Avenue South • Minneapolis, Minnesota 55415  
Telephone: (612) 573-2000 Facsimile: (612) 573-2005

April 2, 2002

Ms. Chris Griffin  
HEWLETT-PACKARD COMPANY  
Legal Department - 314  
11307 Chinden Blvd.  
Boise, ID 83707-1021

**VIA FEDERAL EXPRESS**

Re: New U.S. Patent Application for:  
**MAGNETIC SHIELDING FOR MRAM DEVICES**  
HP File No.: 10014277-1  
DBC File No.: 302.226.101

Dear Chris:

Enclosed are the Declaration and Power of Attorney and Assignment documents for inventor signature for the above-identified application. This application has already been reviewed and approved for filing by the inventor and Steve Ormiston. Please have the inventor execute these documents.

Please return the executed Declaration and Power of Attorney document to my attention via overnight Federal Express. We will then file the application, with formal papers, with the U.S. Patent Office. It is our understanding that you will retain the Assignment document for filing by HP at a later date.

If you have any questions regarding this matter, please feel free to contact me at (612) 573-0439.

Sincerely,

DICKE, BILLIG & CZAJA, P.A.

Jolene A. Neby  
Legal Assistant

## Enclosures

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